

The invention claimed is:

- 1 **Sub AI** 1. A method of transmitting signals from at least two antennae comprising the steps
2 of:
3 determining a degree of difference between received signals from at least two antennae; and
4 using the degree of difference to select between orthogonal coding and beamforming for
5 transmitting signals using the at least two antennae.
- 1 2. The method of claim 1 wherein the step of determining a degree of difference
2 between the received signals comprises determining a degree of amplitude difference.
- 1 3. The method of claim 1 wherein the step of determining a degree of difference
2 between the received signals comprises determining a degree of phase difference.
- 1 4. The method of claim 3 wherein the degree of phase difference is estimated.
- 1 5. The method of claim 1 wherein the step of determining a degree of difference
2 comprises determining a degree of correlation between received signals.
- 1 6. The method of claim 1 wherein the step of using the degree of difference
2 comprises using the degree of difference to select a proportion of orthogonal coding relative
3 to a proportion beamforming of the transmitting signal .
- 1 7. The method of claim 6 wherein the degree of difference can vary between a first
2 level and a second level, where the first level results in selecting beamforming for
3 transmitting and where the degree of difference being substantially equal to the second level
4 results in selecting orthogonal coding for transmitting.
- 1 8. The method of claim 7 wherein a the degree of difference between the first and
2 second levels results in selecting both beamforming and orthogonal coding for transmitting.
- 1 9. The method of claim 7 wherein the degree of difference determines the proportion
2 of beamforming relative to orthogonal coding used for transmitting.
- 1 10. The method of claim 9 wherein a degree of difference being at a level that is
2 closer to the first level results in transmitting more beamforming than orthogonal coding.

1 11. The method of claim 9 wherein the degree of difference being at a level that is
2 closer to the second level results in transmitting using more orthogonal than beamforming.

1 12. The method of claim 9 wherein the degree of difference relative to the first and
2 second reference levels determines the relative amounts of beamforming relative to
3 orthogonal coding used for transmitting.

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